

THE FACTS BENZENE



Benzene is classified as Group 1 carcinogen by the IARC, meaning it is seen as a definite cause of cancer in humans. The link between benzene and cancer has largely focused on leukemia and other cancers of blood cells. The main way people are exposed is by breathing in air containing benzene. Benzene can also be absorbed through the skin during contact with a source such as gasoline, but because liquid benzene evaporates quickly, this is less common.

Where risks occur

Workers in industries that make or use benzene may be exposed to this chemical. These include the rubber industry, chemical plants, shoe manufacturers and gasoline-related industries. Benzene is also used to make some types of lubricants, dyes, detergents, drugs, and pesticides. Other people who may be exposed to benzene at work include steel workers, printers, lab technicians, gas station employees, and firefighters.

More about the substance

Benzene is a colorless or light-yellow liquid chemical at room temperature. It evaporates quickly when exposed to air. It is used primarily as a solvent in the chemical and pharmaceutical industries, as a starting material and an intermediate in the synthesis of numerous chemicals including plastics, lubricants, rubbers, dyes, detergents, drugs, and pesticides. Benzene is produced by both natural and man-made processes.

It is a natural component of crude oil and gasoline (and therefore motor vehicle exhaust), as well as cigarette smoke. Other natural sources include gas emissions from volcanoes and forest fires.

How symptoms can affect you

Acute effects of breathing in high doses of benzene can lead to symptoms as headache, dizziness, drowsiness and tremors. It can also be a moderate eye and skin irritant. Chronic exposure to benzene mainly harms the bone marrow, the soft, inner parts of bones where new blood cells are made. This can result in anemia (a low red blood cell count), which can cause a person to feel weak and tired, a low white blood cell count, which can lower the body's ability to fight infections and different types of leukaemia. People who have experienced benzene poisoning requiring treatment show a substantially increased risk of dying from leukaemia. Smoking increases the risks since cigarette smoke is a major source of benzene exposure.

Latency period between exposure and benzene related cancer varies from 1 to 10 years.

What you can do

Perform proper exposure measurements so it is known when actions should be taken. Inform workers about the risks and preventive measures.

Best solution is to control exposure by elimination or substitution, for example replacing the benzene with another solvent or enclosing the benzene source. Make sure the right personal protective equipment is used.

References: cancer.org, CDC, HSE, IARC